

Marine Environmental Infrastructure for Data Integration and Application Network (MERIDIAN)

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MEOPAR Ocean Data Management Expert Forum
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CFI CyberInfrastructure Program

- Announced in 2013
- \$50(75?)M to be divided between Compute Canada (30M) and universities (20M) over two years
- Research data infrastructure
- Universities: mainly for Data science positions
- Development of data resources in support of Canadian research

CFI CyberInfrastructure Program: attributes of a good proposal

- Interdisciplinary, multi-institutional
- Developed in consultations with Compute Canada
- Supported research to be of national importance
- NOT research (adopt/adapt/develop)

Cyberinfrastructure \$\$\$

- Up to \$ 5M:
 - \$2M from CFI
 - \$2M from provinces
 - \$1 M from partners

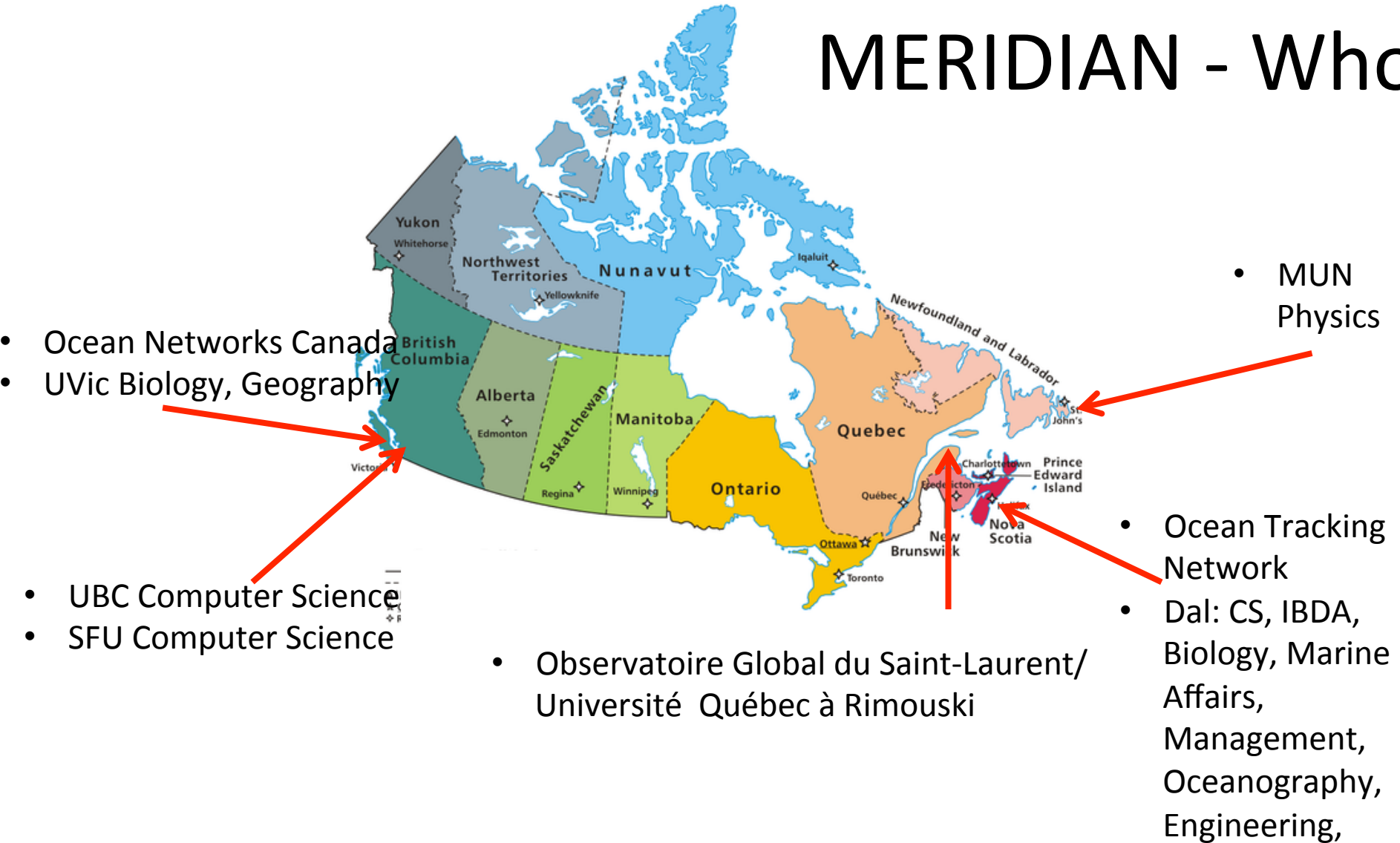
CFI Cyberinfrastructure 2015 competition

| | | | |
|------------|-----------|-----------------|-------------|
| EOI → | NOI → | full proposal → | funding |
| Feb 2015 | May 2015 | Oct 2015 | Apr 2016 |
| 200 words | 8 pp. | 20 pp. | |
| 60+ | 37 | 18 | ?3-5 |

MERIDIAN - What

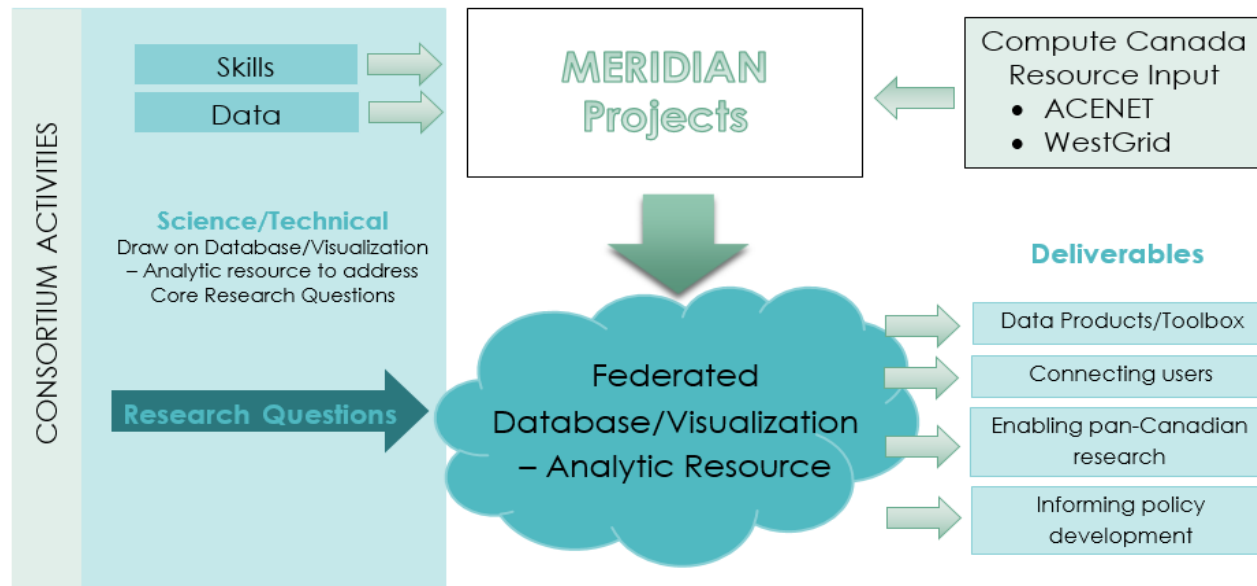
- a set of **federated data resources and tools** provided by and available to a **consortium of Canada's leading ocean researchers** representing academia, government and non-governmental organisations and the ocean industry that **will help drive discovery and innovation**.
- To achieve this MERIDIAN will **adopt, adapt and develop** efficient data science methods, techniques and tools, including **data integration** and **interoperability**, database **aggregation** and **data analysis**
- focus on **data streams** and **visualization**.

MERIDIAN - Who



How

- Selected Ocean Science Research questions will be supported by “Cyberprojects”
- Pilot focus: acoustic data



- We have support and in-kind contributions from Canadian industry

How

- Research Questions:
 - Question 1: Ocean Sound and Animals
 - Question 2: Ocean soundscape atlas
 - Question 3: Ocean Sound, Economic Activities and MPA synergy
- Cyberprojects
 - Integrated acoustic data in interoperable databases (Lead: S. Matwin, M. Smit - Dal)
 - Interactive (dynamic) data visualization and communication (lead: F. Popowich, SFU)
 - Algorithms and data structures for scalable processing of marine data (lead – R. Ng, UBC)

MERIDIAN - Example

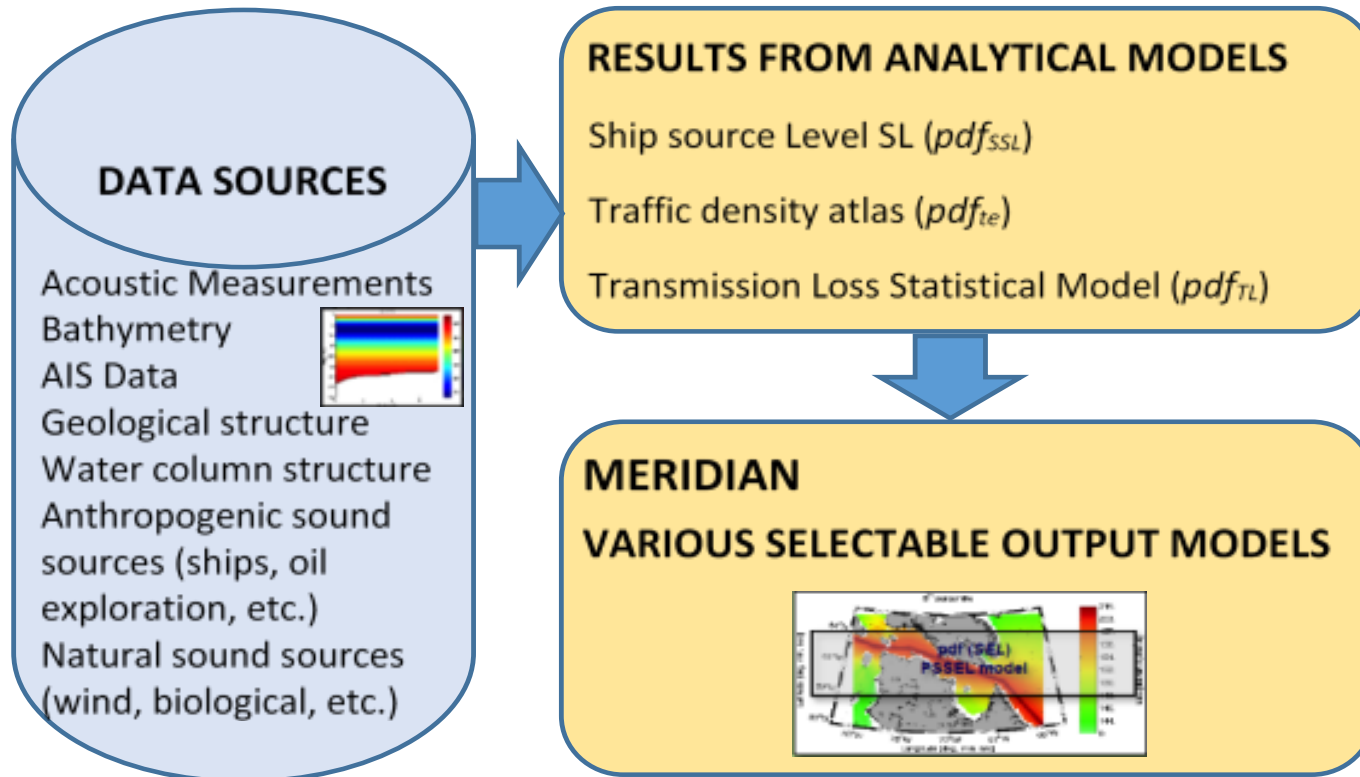


Figure 1. Example of MERIDIAN result: data sources on the left are integrated and linked in order to feed the probabilistic modeling techniques. The results of these models feed into other data products (e.g. the ocean soundscape atlas) and enable a contextualized (geographically and temporarily) visualization of underwater noise

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With thanks to...

- Fred Whoriskey
- Mike Smit
- Dal RS and Shelley Brown

